

REMARKS

The Office Action dated June 8, 2011 has been reviewed, and the comments of the U.S. Patent Office have been considered. Claims 1-11, 14, 15, 20-66 and 68-74 are currently pending, claims 1-11, 14, 15, 20-54, 62-66 and 68-74 stand rejected, and claims 55-61 stand withdrawn. By this Amendment, claims 1, 20, 24-25, 42, 45-48, 50, 53, and 63-64 have been amended. Reconsideration of this application in view of the above amendments and the arguments presented below is respectfully requested.

Second Request for an Interview

An Applicant Initiated Interview Request Form was attached to Applicants' prior filing of March 22, but the instant Office Action was issued without the Office granting Applicants' request. Accordingly, this oversight is brought to the Examiner's attention and, for a second time, Applicants request an interview via the attached second Applicant Initiated Interview Request Form. It is requested that the Examiner contact the undersigned representative and schedule an interview prior to the issuance of any action on the merits of the application.

35 U.S.C. 103 REJECTION

Claims 1-11, 14, 15, 20-54, 62-66 and 68-74 stand rejected under 35 U.S.C. 103(a) over U.S. Patent No. 5,727,737 to Bosio et al. ("Bosio") in view of U.S. Patent No. 5,810,263 to Tramm ("Tramm") and U.S. Patent No. 4,296,816 to Fischer ("Fischer"). The rejections are respectfully traversed.

By this Amendment, independent claims 1, 20, 24-25, 42, 45-48, 50, and 63-64 have been amended to correct informalities and to particularly point out and distinctly claim an extended coverage sidewall automatic fire sprinkler with a deflector having a single flow opening, and dependent claim 53 has been amended to correct informalities. As the recitation of a single flow opening was already in the claims prior to this Amendment, Applicants submit that the amendments are clarifying and thus not made to overcome prior art.

As stated previously in the record, the rejection is traversed because the applied references (Bosio, Tramm, and Fischer), alone or in combination, do not show, describe, teach, or suggest each and every feature of the claimed sprinkler and deflector. For example, the

applied references do not show or describe an extended coverage sidewall automatic fire sprinkler with a deflector having a "single flow opening" as recited in independent claims 1, 20, 24, 25, 42, 45, 46, 47, 48, 50, 63, and 64. Bosio shows and describes a deflector 17 with at least five openings (openings/slots 27, 32, 34, 35, 36, and 37) that direct water flow through the Bosio deflector. *See* Bosio at col. 2, line 58, to col. 3, line 17, and Figure 3. Tramm shows and describes a deflector 22 with at least four openings (apertures 54, 55, 56, and 57) that direct water through the Tramm deflector. *See* Tramm at col. 7, lines 43-50, and Figure 3. Fischer shows and describes a deflector plate 38 with at least three openings (slots 77 and aperture 79) that direct water through the Fiseher deflector. *See* Fiseher at col. 3, line 63, to col. 4, line 7, and Figure 3. In view of the above, Applicants respectfully submit that a *prima facie* case of obviousness cannot be established because the applied references, alone or in combination, fail to show, describe, teach, or suggest each and every feature of the claim invention.

Furthermore, the pending claims include functional recitations and the Office Action at page 4 suggests that the Office has not given patentable weight to at least some of the recited functional recitations when considering the prior art. Applicants disagree with the Examiner's treatment of functional recitations such as in, for example, independent claim 1 which states:

... the deflector being shaped and positioned so that upon release of the closure by the trigger, the deflector transforms water discharged horizontally from the outlet into a spray pattern of water droplets dispersed over a generally horizontal, generally rectangularly-shaped extended coverage area of more than one hundred square feet located on one side of the sprinkler effective to control an ordinary hazard fire in the coverage area, and when the sidewall fire sprinkler is paired with an identical sidewall fire sprinkler mounted approximately sixteen feet apart on a generally planar wall surface with a collection area of approximately sixteen feet between the sprinklers and sixteen feet away from one of the sprinklers, the collection area located at either one of a distance of about thirty-six inches and a distance of approximately six feet and 7.5 inches below each of the sidewall fire sprinklers so that water is delivered to the collection area at an average density of about 0.15 gallons per minute per square feet.

Applicants respectfully remind the Examiner that "a patent applicant is free to recite features of an apparatus either structurally or functionally." *See In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997) (citing *In re Swinehart*, 439 F.2d 210, 212 (CCPA 1971)). Following an

appropriate evaluation and consideration of a functional limitation, it is understood that, "when the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on" by the Office. *See In re Schreiber*, 128 F.3d at 1478; *cf.* MPEP 2114 at 2100-52. Accordingly, Applicants submit that the Examiner must determine if recited functional limitations in a claim give the claim patentable weight in view of the prior art. If the Examiner determines that the functional limitations were found to be inherent in the prior art, the burden shifts to Applicants to show that the prior art does not inherently possess the functionally defined limitations of the claimed apparatus. *See id.*

The Office Action at page 4 appears to assert that at least some of the functional recitations in the rejected claims are provided by only the secondary references (Fischer and Tramm) and not by the primary reference (Bosio). Applicants submit that the Office's reliance on secondary references to address functional recitations demonstrates that the recited functions are not inherent to the Bosio sprinkler. Also, as the pending claims include a combination of structural and functional recitations, Applicants further submit that the absence of a "single flow opening" in the Bosio, Tramm, and Fischer designs demonstrates that these references do not inherently disclose the functional recitations described above.

Applicants also traverse the obviousness rejection where it is based on a hypothetical modification of the Bosio sprinkler with the teachings of Tramm to provide a modified sprinkler with the recited K-factors or to provide specific flow rates. "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious ... [and] (quoting *In re Kahn*) there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See* MPEP 2141(III). Applicants submit that the obviousness rejection is deficient because the Office Action does not articulate how the Bosio sprinkler would have been hypothetically modified to arrive at the recited sprinkler, and because the Office Action does not articulate any rationale for why a person of ordinary skill would make the hypothetical modification. Absent an articulated rationale, as is required by MPEP 2141(III), the rejection appears to be based on impermissible hindsight reasoning. *See* MPEP 2145(X)(A).

Applicants submit that the secondary references (Fischer and Tramm) do not provide sufficient teaching to a person of ordinary skill to allow the hypothetical modification of the Bosio sprinkler to achieve the aforementioned structural and/or functional recitations. None of the secondary references teach the use of a single flow opening. Also, to the extent Tramm does teach certain functions (as described at page 4 of the Office Action), the use of that teaching would require the Bosio deflector canopy to be rotated 180 degrees. *See Tramm* at Abstract, col. 8, lines 13-16, and Figure 1 (explaining that the horizontal flow confining element 48 extends rearward to achieve certain flow characteristics). Tramm does not show or describe the use of a forward facing canopy that achieves the recited functional recitations.

For the reasons already of record, Applicants submit that the combination of references relied on in the rejection cannot support a case of obviousness because a person of ordinary skill in the art, at the time the invention was made, would not have known how to modify a sprinkler with the teachings of Tramm to reach Applicants' invention. *See, e.g.*, the Declaration of Michael A. Fischer, filed October 6, 2004. Applicants therefore maintain that a person of ordinary skill would not have been suggested, motivated or had an identified reason to modify the Bosio sprinkler with the teachings of Tramm, as proposed by the Examiner, to reach the claimed invention as a whole so as to support a *prima facie* case of obviousness.

Applicants submit that, in view of the above amendments and remarks, the cited references (Bosio, Fischer, and Tramm), whether taken alone or in combination, fail to show, describe, teach or suggest each and every feature of the claimed inventions so as to reach Applicants' invention as a whole. It is respectfully submitted that the pending claims are patentable over the cited references.

35 U.S.C. 112 REJECTIONS

Claims 64-66, 68-74 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; and claims 1-11, 14, 15, and 62 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The rejections are respectfully traversed.

In response to the §112 first paragraph rejection, claim 64 has been amended to clarify that the recited knuckle is supported by the body. Support for this amendment is provided in the

as-filed application by, at minimum, page 4, line 21, to page 5, line 2, and by Figure 1. In response to the §112 second paragraph rejection, claim 1 has been amended to delete the objectionable "consisting of" phrasing and to clarify that the face portion has a perimeter that circumscribes a single opening within the perimeter. Independent claims 20, 24, 25, 42, 45, 46, 48, 50, and 63 have been similarly amended to delete the same phrasing. Support for these amendments is provided in the as-filed application by, at minimum, Figure 5. The §112 rejections are thus believed to be overcome in view of the amendments to the claims. It is respectfully requested that the rejections be withdrawn.

Response to Examiner's Comments

At page 6 of the Office Action it is asserted that independent claim 1 and its dependent claims (2-11, 14-15, and 62) "are repetitious and do not differ substantially from" the other pending independent claims (20, 24, 25, 42, 45, 46, 47, 48, 50, 63, and 64) and some of their dependent claims (21-23, 26-41, 43-44, 49, 51-52, 65-66, and 68-74) (dependent claims 53 and 54 are not mentioned). It is further asserted that "claims 20-52, 63-66 and 68-74 represent an unreasonable number of claims for which the net result is to confuse rather than to clarify." Applicants traverse these characterizations of the pending claims as they are not accurate.

Applicants maintain that there are substantial differences between the pending independent claims. For example, claim 50 and its dependent claims are to a system whereas other claims are to a sprinkler. In another example, claims 1, 24, 47, 48, 63, and 64 have recitations regarding the control of a fire, whereas claims 20, 25, 42, 45, 46, and 50 do not. In yet another example, claims 1, 20, 42, 63, and 64 recite a K factor that is different than the K factor recited in claims 24, 25, 45, 46, 47, 48, and 50. In still other examples, the claims differ in their recitations of frame arm, knuckle, first and second distance, flat surface, and closure. Applicants bring to the Examiner's attention that claim 64 differs from the others because it recites means plus function language that, Applicants submit, has not been properly considered by the Office in the Office Action in accordance with MPEP 2181.

Applicants further submit that the pending claim set does not contain an unreasonable number of claims and that there is no intent to cause confusion from the pending claim set. As

mentioned above, Applicants have requested an interview at which the Examiner's concerns can be discussed, among other topics.

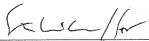
CONCLUSION

Allowance of at least the pending claims is respectfully requested. The Director is hereby further authorized by this paper to charge any fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-2283. **This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).**

Respectfully submitted,

Date: December 8, 2011

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